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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,058	06/09/2005	Catherine Lavergne	4590-417	9220
33308 7590 02/06/2007 LOWE HAUPTMAN GILMAN & BERNER, LLP 1700 DIAGNOSTIC ROAD, SUITE 300 ALEXANDRIA, VA 22314			EXAMINER LEVI, DAMEON E	
			ART UNIT	PAPER NUMBER
			2841	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/06/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/538,058	LAVERGNE ET AL.	
	Examiner	Art Unit	
	Dameon E. Levi	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 11, 12, 14, 15, 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/09/2005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-4, 6-10, and 13, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Thompson et al US Patent 5748451.**

Regarding claim 1, Thompson et al discloses an electronic card(element 12, Figs 1-5) having a first face and a second face, said faces including mechanical reinforcements comprising: a first braced structure(element 14, Figs 1-5) placed on the first face and, a second braced structure(element 16, Figs 1-5) placed on the second face of said electronic card, wherein said reinforcements are formed from said first and said second braces structures.

Regarding claim 2, Thompson et al discloses wherein the second braced structure(element 16, Figs 1-5) is substantially identical to the first braced structure(element 14, Figs 1-5).

Regarding claim 3, Thompson et al discloses wherein the second braced structure(element 16, Figs 1-5) is placed on the second face in a substantially identical manner to the first braced structure(element 14, Figs 1-5) placed on the first face.

Regarding claim 4, Thompson et al discloses wherein each braced structure comprises at least a first peripheral brace support(element 34, Figs 1-5) , a second peripheral

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brace support(element 18, Figs 1-5) and a brace(element 14,16, Figs 1-5) , these being located on the same face of the electronic card, each peripheral brace support having a lower end fastened to said face and an upper end, said upper ends of the first and second peripheral brace supports being joined together by said brace.

Regarding claim 6, Thompson et al discloses wherein the brace(element 14,16, Figs 1-5) essentially comprises a small diameter metal cable.

Regarding claim 7, Thompson et al discloses wherein the brace (element 14,16, Figs 1-5) essentially comprises a thin metal blade.

Regarding claim 8, Thompson et al discloses each braced structure includes means for mechanically tensioning the brace, said tension being adjustable by said means(element 18, Figs 1-5).

Regarding claim 9, Thompson et al discloses wherein the mechanical tensioning means(element 18, Figs 1-5) are common to the braces of each braced structure.

Regarding claim 10, Thompson et al discloses wherein the means for tensioning the brace of the second braced structure are independent of the for tensioning the brace of the first braced structure(element 18, Figs 1-5).

Regarding claim 13, Thompson et al discloses wherein tensioning means(element 18, Figs 1-5) are common to the braces of the second structure and to the brace of the first structure.

Regarding claim 16, Thompson et al discloses an electronic computer that includes at least one electronic card( Figs 1-5).

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Regarding claim 17, Thompson et al discloses an avionics system that includes at least one electronic computer( Figs 1-5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al US Patent 5748451 in view of Hsieh et al US Patent 7161238.**

Regarding claim 5, Thompson et al discloses the instant claimed invention except wherein each braced structure comprises four brace supports spaced approximately in the form of a rectangle and two braces, each brace joining two base supports located on one of the two diagonals of the rectangle.

Hsieh et al discloses an apparatus wherein a braced structure (element 10,11 Figs 1-8) comprises four brace supports(element 14,Figs 1-8) spaced approximately in the form of a rectangle and two braces, each brace joining two base supports located on one of the two diagonals of the rectangle.

Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to have arranged the braced structure in the manner as taught by Hsieh in the assembly as taught by Thompson et al in order to account for the height of

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components mounted on the circuit board, as well as, to distribute the stiffening effect over a wide area of the circuit board.

***Allowable Subject Matter***

Claims 11,12,14,15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not fairly teach or suggest wherein the means for mechanically tensioning each braced structure comprise a central mast located between the first peripheral brace support and the second peripheral brace support the two peripheral brace supports and the central mast being located on the same face of the electronic card said central mast being approximately perpendicular to said face, said central mast having a lower end fastened to the electronic card, and an upper end carrying a mechanical assembly comprising means for translationally adjusting the brace along the central mast and for fixing it thereto, the central portion of the brace of said braced structure being fastened to said mechanical assembly.

Or as in claim 18, a central mast passing through the electronic card and having a first end and a second the first end of said mast being located on the same side as the first face, the brace of the first structure being fastened to said first end; and the second end being located on the same side as the second face, the second end carrying a mechanical assembly fastened to the brace of the second structure, said mechanical assembly comprising means for translationally adjusting

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the brace along the central mast and for fixing it thereto, the central portion of the brace of the second structure being fastened to said mechanical assembly; at least two central brace supports located on the first face, these being placed on either side of the central mast, each brace support having a lower end, fastened to said first face, and an upper end, the base of the first braced Structure resting on said upper ends of said central brace supports; and at least two central brace supports located on the second face, these being placed on either side of the central mast, each brace support having a lower end, fastened to said second face and upper end, the brace of the second braced structure resting on said upper ends of said central brace supports.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dameon E. Levi whose telephone number is (571) 272-2105. The examiner can normally be reached on Mon.-Thurs. (9:00 - 5:00) IFP, Fridays Telework.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Tuan Dinh  
Art 2841

Dameon E Levi  
Examiner  
Art Unit 2841

DEL